

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Cancelled).
2. (Original) A dehalogenation treatment method of a halogen-containing flame-retardant resin composition comprising a step of bringing the halogen-containing non-combustible thermosetting resin composition into contact with a material mixture containing a dehalogenation promoting material capable of decomposing some of chemical bonds of the thermosetting resin and producing resin raw materials and a dehalogenation material at 200°C or higher and a temperature lower than a thermal decomposition temperature of the thermosetting resin composition.
3. (Original) The dehalogenation treatment method of a halogen-containing flame-retardant resin composition as set forth in claim 2, wherein the dehalogenation promoting material is at least one substance selected from the group consisting of ethylene glycol, propylene glycol, diethylene glycol, dipropylene glycol, isoprene glycol, triethylene glycol, tetraethylene glycol, 2-methoxyethanol, 2-ethoxyethanol, 2-dimethoxyethanol, 2-isopropoxyethanol, 2-butoxyethanol, 2-isopentyloxyethanol, 2-hexyloxyethanol, 2-phenoxyethanol, 2-benzylxyethanol, 1-methoxy-2-propanol, 1-ethoxy-2-propanol, diethylene glycol monomethyl ether, diethylene glycol monoethyl ether, diethylene glycol monobutyl ether, dipropylene glycol monomethyl ether, dipropylene glycol monoethyl ether, triethylene glycol monomethyl ether and tripropylene glycol monomethyl ether, tetralin, biphenyl, naphthalene, 1,4-hydroxynaphthalene, naphthol, 1,4-naphthoquinone, pitch, creosote oil, methyl isobutyl ketone, isophorone, 2-hexanone, 2-heptanone, 4-heptanone, diisobutyl ketone, acetonylacetone, phorone, cyclohexanone, methylcyclohexanone, and acetophenone.
4. (Original) A dehalogenation treatment method of a halogen-containing flame-retardant resin composition comprising a step of bringing the halogen-

containing non-combustible thermoplastic resin composition into contact with a material mixture containing a dehalogenation promoting material capable of dissolving at least a halogen-containing flame-retardant and a dehalogenation material at a temperature lower than a thermal decomposition temperature of the thermoplastic resin composition.

5. (Original) The dehalogenation treatment method of a halogen-containing flame-retardant resin composition as set forth in claim 4, wherein the dehalogenation promoting material is at least one compound selected from the group consisting of methyl chloride, dichloromethane, chloroform, carbon tetrachloride, bromoform, methanol, ethanol, 1-propanol, 2-propanol, 1-butanol, 2-butanol, isobutylalcohol, tert-butylalcohol, phenol, cresol, ethylene glycol, propylene glycol, diethylene glycol, dipropylene glycol, isoprene glycol, triethylene glycol, tetraethylene glycol, diethyl ether, dioxane, tetrahydrofuran, acetone, methyl ethyl ketone, 2-hexanone, 2-methyl-4-pentanone, phorone, isophorone, 2-heptanone, 4-heptanone, diisobutyl ketone, acetonylacetone, cyclohexanone, methylcyclohexanone, acetophenone, acetic acid, acetonitrile, diethylamine, triethylamine, N,N-dimethylformamide, N-methylpyrrolidone, dimethyl sulfoxide, 2-methoxyethanol, 2-ethoxyethanol, 2-dimethoxyethanol, 2-isopropoxyethanol, 2-butoxyethanol, 2-isopentyloxyethanol, 2-hexyloxyethanol, 2-phenoxyethanol, 2-benzylxyethanol, 1-methoxy-2-propanol, 1-ethoxy-2-propanol, diethylene glycol monomethyl ether, diethylene glycol monoethyl ether, diethylene glycol monobutyl ether, dipropylene glycol monomethyl ether, dipropylene glycol monoethyl ether, triethylene glycol monomethyl ether, tripropylene glycol monomethyl ether, polyethylene glycol, polypropylene glycol, and tetralin.

6. (Currently Amended) A dehalogenation treatment method of a halogen-containing flame-retardant resin composition comprising a step of bringing the halogen-containing flame-retardant resin composition into contact with a material mixture containing a dehalogenation material and a dehalogenation promoting material at a temperature lower than the thermal decomposition temperature of the resin composition, by kneading the mixture while applying shear force, wherein the contact by kneading while applying shear force is carried out by a biaxial kneading extruder, a kneader, or rotation rolls.

7. (Cancelled).

8. (Currently Amended) The dehalogenation treatment method of a halogen-containing flame-retardant resin composition as set forth in any one of claims 1-2 to 6 7 and 17-23, wherein the dehalogenation material is at least one substance selected from the group consisting of tetralin, sodium hypophosphite, sodium thiosulfate, ascorbic acid, hydrazine, dimide, formic acid, ~~an aldehyde aldehydes, a saccharide saccharides~~, hydrogen sulfide, lithium, calcium, magnesium, zinc, iron, titanium, aluminum lithium hydride, lithium hydride, hydrogenated diisobutylaluminum, alcoholic potassium, ~~a metal alkoxide alkoxides, an amine amines~~, and potassium iodide.

9. (Currently Amended) The dehalogenation treatment method of a halogen-containing flame-retardant resin composition as set forth in any one of claims 1-2 to 6 7 and 17 to 23, wherein the contact of the halogen-containing flame-retardant resin composition with the material mixture is contact with the material mixture in the liquid phase or/and the vapor phase.

10. (Currently Amended) The dehalogenation treatment method of a halogen-containing flame-retardant resin composition as set forth in any one of claims 1-2 to 6 7 and 17 to 23, wherein the method comprises a step of eliminating oxygen from the contact ambient atmosphere prior to the contact of the halogen-containing flame-retardant resin composition with the material mixture containing the dehalogenation material and the dehalogenation promoting material.

11. (Original) The dehalogenation treatment method of a halogen-containing flame-retardant resin composition as set forth in claim 10, wherein the step of eliminating oxygen is a replacement step of replacing the gas of the ambient atmosphere with nitrogen gas by sending nitrogen gas and/or a pressure decrease step of decreasing the pressure by evacuating the gas of the ambient atmosphere by gas discharge.

12. (Currently Amended) The dehalogenation treatment method of a halogen-containing flame-retardant resin composition as set forth in any one of claims 1-2 to 6 7 and 17 to 23, wherein substances generated by bringing the halogen-containing flame-retardant resin composition into contact with the material mixture containing

the dehalogenation material and the dehalogenation promoting material are passed through an alkaline solution.

13. (Currently Amended) The dehalogenation treatment method of a halogen-containing flame-retardant resin composition as set forth in any one of claims ~~1-2 to 6~~
~~7 and 17 to 23~~, wherein the halogen composes at least one compound selected from the group consisting of decabromodiphenyl ether, tetrabromobisphenol A, 2,2-bis(4-hydroxy-3,5-dibromophenyl)propane, hexabromobenzene, tris(2,3-dibromopropyl)isocyanurate, 2,2-bis(4-hydroxyethoxy-3,5-dibromophenyl)propane, perfluorocyclodecanethylenebis(pentabromobenzene), ethylene bistetrabromophthalimide, hexabromocyclododecane, ~~a~~-halogen-containing ~~polyphosphates~~ ~~pyrophosphates~~, paraffin chloride, pentabromotoluene, octabromodiphenyl oxide, tetrabromophthalic anhydride, brominated ~~(alkyl)phenol(alkyl)phenols~~, tris(tribromophenoxy)triazine, brominated polystyrene, octabromotrimethylphenylindane, pentabromobenzyl acrylate, polydibromophenylene oxide, bis(tribromophenoxyethane), tetrabromobisphenol A-~~epoxy oligomer/polymer~~
~~A-epoxy oligomer/polymers~~, tetrabromobisphenol A-carbonate-~~oligomer~~
~~oligomers~~, tetrabromobisphenol A-bis(2,3-dibromopropyl ether), tetrabromobisphenol A-bis(allyl ether), and tetrabromobisphenol S.

14. (Currently Amended) The dehalogenation treatment method of a halogen-containing flame-retardant resin composition as set forth in claim 2 or claim 3, wherein the halogen-containing flame-retardant resin composition is a printed circuit board comprising a resin layered ~~lamine~~ ~~laminated~~ produced by laminating and molding prepgs each composed of at least a base material selected at least from the group consisting of a woven or non-woven fabric of glass fibers, a woven or non-woven fabric of polyester fibers, a woven or non-woven fabric of nylon fibers, a woven or non-woven fabric of acrylic fibers, a woven or non-woven fabric of aramide fibers, paper, mica paper, cotton cloth, and asbestos and epoxy or phenol resin with which the base material is impregnated; a conductor pattern formed on the base material; and electronic parts incorporated into the base material.

15. (Original) The dehalogenation treatment method of a halogen-containing flame-retardant resin composition as set forth in claim 4 or claim 5, wherein the halogen-containing flame-retardant resin composition is a box body of a television, a

display, or a personal computer and the method comprises a step of pulverizing the box body prior to the contact with the material mixture containing the dehalogenation material and the dehalogenation promoting material.

16. (Currently Amended) The dehalogenation treatment method of a halogen-containing flame-retardant resin composition as set forth in any one of claims 1-2 to 5, wherein the halogen-containing flame-retardant resin composition is a composite so composed as to cover a metal wire and brought into contact with the material mixture containing the dehalogenation material and the dehalogenation promoting material to separate the metal.

17. (New) A method for treating a halogen-containing flame-retardant resin composition, in which the flame-retardant resin composition comprises styrene and a halogen-containing flame retardant;

the method comprising:

1) bringing the halogen-containing flame-retardant resin composition into contact with a dehalogenation material and a dehalogenation promoting material at a temperature not lower than 200°C and lower than the thermal decomposition temperature of the resin composition, and

2) recovering the styrene.

18. (New) A method for treating a halogen-containing flame-retardant resin composition, in which the flame-retardant resin composition comprises a phenol resin and a bromine-containing flame retardant;

the method comprising

1) bringing the halogen-containing flame-retardant resin composition into contact with a dehalogenation material and a dehalogenation promoting material at a temperature not lower than 200°C and lower than the thermal decomposition temperature of the resin composition, whereby phenolic oligomers are produced; and

2) recovering bromine.

19. (New) A method for treating a halogen-containing flame-retardant resin composition, in which the flame-retardant resin composition comprises an unsaturated polyester resin and a bromine-containing flame retardant;

the method comprising

1) bringing the halogen-containing flame-retardant resin composition into contact with a dehalogenation material and a dehalogenation promoting material at a temperature not lower than 200°C and lower than the thermal decomposition temperature of the resin composition, whereby carboxylic acids and glycols are produced; and

2) recovering bromine.

20. (New) The dehalogenation treatment method of a halogen-containing flame-retardant resin composition as set forth in claim 2, wherein the dehalogenation promoting material is at least one substance selected from the group consisting of ethylene glycol, propylene glycol, diethylene glycol, dipropylene glycol, isoprene glycol, triethylene glycol, tetraethylene glycol, 2-methoxyethanol, 2-ethoxyethanol, 2-dimethoxyethanol, 2-isopropoxyethanol, 2-butoxyethanol, 2-isopentyloxyethanol, 2-hexyloxyethanol, 2-phenoxyethanol, 2-benzylxyethanol, 1-methoxy-2-propanol, 1-ethoxy-2-propanol, diethylene glycol monomethyl ether, diethylene glycol monoethyl ether, diethylene glycol monobutyl ether, dipropylene glycol monomethyl ether, dipropylene glycol monoethyl ether, triethylene glycol monomethyl ether and tripropylene glycol monomethyl ether, biphenyl, naphthalene, 1,4-hydroxynaphthalene, naphthol, 1,4-naphthoquinone, pitch, creosote oil, methyl isobutyl ketone, isophorone, 2-hexanone, 2-heptanone, 4-heptanone, diisobutyl ketone, acetonylacetone, phorone, cyclohexanone, methylcyclohexanone, and acetophenone.

21. (New) The dehalogenation treatment method of a halogen-containing flame-retardant resin composition as set forth in claim 4, wherein the dehalogenation promoting material is at least one compound selected from the group consisting of methyl chloride, dichloromethane, chloroform, carbon tetrachloride, bromoform, methanol, ethanol, 1-propanol, 2-propanol, 1-butanol, 2-butanol, isobutylalcohol, tert-butylalcohol, phenol, cresol, ethylene glycol, propylene glycol, diethylene glycol,

dipropylene glycol, isoprene glycol, triethylene glycol, tetraethylene glycol, diethyl ether, dioxane, tetrahydrofuran, acetone, methyl ethyl ketone, 2-hexanone, 2-methyl-4-pentanone, phorone, isophorone, 2-heptanone, 4-heptanone, diisobutyl ketone, acetylacetone, cyclohexanone, methylcyclohexanone, acetophenone, acetic acid, acetonitrile, diethylamine, triethylamine, N,N-dimethylformamide, N-methylpyrrolidone, dimethyl sulfoxide, 2-methoxyethanol, 2-ethoxyethanol, 2-dimethoxyethanol, 2-isopropoxyethanol, 2-butoxyethanol, 2-isopentyloxyethanol, 2-hexyloxyethanol, 2-phenoxyethanol, 2-benzylxyethanol, 1-methoxy-2-propanol, 1-ethoxy-2-propanol, diethylene glycol monomethyl ether, diethylene glycol monoethyl ether, diethylene glycol monobutyl ether, dipropylene glycol monomethyl ether, dipropylene glycol monoethyl ether, triethylene glycol monomethyl ether, tripropylene glycol monomethyl ether, polyethylene glycol, and polypropylene glycol.

22. (New) The dehalogenation treatment method of a halogen-containing flame-retardant resin composition as set forth in claim 20, wherein the dehalogenation material is at least one substance selected from the group consisting of sodium hypophosphite, sodium thiosulfate, ascorbic acid, hydrazine, dimide, formic acid, aldehydes, saccharides, hydrogen sulfide, lithium, calcium, magnesium, zinc, iron, titanium, aluminum lithium hydride, lithium hydride, hydrogenated diisobutylaluminum, alcoholic potassium, metal alkoxides, amines, and potassium iodide.

23. (New) The dehalogenation treatment method of a halogen-containing flame-retardant resin composition as set forth in claim 21, wherein the dehalogenation material is at least one substance selected from the group consisting of sodium hypophosphite, sodium thiosulfate, ascorbic acid, hydrazine, dimide, formic acid, aldehydes, saccharides, hydrogen sulfide, lithium, calcium, magnesium, zinc, iron, titanium, aluminum lithium hydride, lithium hydride, hydrogenated diisobutylaluminum, alcoholic potassium, metal alkoxides, amines, and potassium iodide.

24. (New) The dehalogenation treatment method of a halogen-containing flame-retardant resin composition as set forth in any one of claims 4 to 6, and 21 wherein the resin is polystyrene.

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25. (New) The dehalogenation treatment method of a halogen-containing flame-retardant resin composition as set forth in claim 6, wherein the step of bringing the halogen-containing flame-retardant resin composition into contact with the material mixture containing the dehalogenation material and the dehalogenation promoting material is carried out at 200°C or higher.